DOMINATIVE AND SOCIALLY INTEGRATIVE BEHAVIOR OF TWENTY-FIVE SECOND GRADE TEACHERS

BY

DOROTHY ELOISE CLIFTON
A.B., University of Kentucky, 1934
M.A., The Ohio State University, 1935

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN PSYCHOLOGY
IN THE GRADUATE SCHOOL OF THE
UNIVERSITY OF ILLINOIS, 1944

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I. Introduction

Previous studies of the dominative and socially integrative behavior of elementary school teachers by Anderson and others[1] had disclosed both similarities and wide differences in the behavior of different teachers. Because these studies had been concerned with the problem of validating the measures of teachers' behavior, data on the behavior of both teacher and child were recorded simultaneously. Since the behavior of only one child could be recorded at a time, the sampling procedure of taking children in rotation was a very time-consuming and costly one. These studies had necessarily included as subjects only a very few teachers and children in their respective rooms. With the validity of the measures established, the method was shortened[2] to permit the gathering of sufficient data in one room during a two-and-a-half-day period. Thus, it became feasible to extend the scope of the studies of dominative and socially integrative behavior to provide data on a much larger number of teachers and secure a broader basis for interpreting the behavior of elementary teachers.

This study represents the first use of the shorter procedure. By this procedure it was possible to record during each observation period the teacher's contacts with all the children in the room, instead of recording the teacher's contacts with only one child at a time.

The aims of this study were (1) to obtain reliable observational records of the dominative and socially integrative behavior of a number of elementary teachers in their schoolrooms; (2) to analyze these data for range, variability, and central tendency; (3) to discover any relationships among the different types of behavior and between the behavior and other factors, such as age of teacher, number of children in the room, sex of children, and time of day.

II. Procedure

1. *Definitions of the categories of teacher contacts.* The definitions of the categories of teacher contacts were taken from Anderson.[3] For this study contacts were classified and recorded in the two classifications of integration and three of domination as follows:

F. Integration with evidence of working together.

E. Integration with no evidence of working together.

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[1] Harold H. Anderson, Joseph E. Brewer, Mary Frances Reed, and Helen M. Brewer, Studies in dominative and socially integrative behavior in the elementary school. (Unpublished manuscript.) [2] *Op. cit.*, Chapter 9. [3] *Op. cit.*, Chapter 4.

C. Domination in working together.
B. Domination with no evidence of conflict.
A. Domination with evidence of conflict.

2. *Method.* The observation blank used in this study contained a column for group contacts and separate columns for individual contacts with each child in the room. The first names of the children were mimeographed in alphabetical order at the top of the columns. The children and the teacher were all under observation simultaneously.

The frequency of contacts in a given sequence was determined on a conceptual basis. If a teacher said, "Come up here . . . quietly . . . and put your books . . . in a pile . . . beside the books of the other class. Quietly, now," six contacts would be recorded as indicated. Reiteration of a statement was always given the same weight as the original.

Whenever a contact was noted the observer made a tally in the space labeled for the particular child and for the category of the contact. If the observer was unable to hear what was said, the contact was recorded as "undetermined." In cases in which the identity of the child was not apparent, the contact was recorded as "unidentified."

At the top of each blank, notations were made of the data, observer's initials, serial number of the blank, classroom activity, and clock time when the observation period was begun. A separate observation blank was used for each observation period of five minutes.

In most cases, the observer entered the schoolroom at nine o'clock in the morning and was in the room continuously during school hours for two and a half days. The length of time it was necessary for the observer to remain in the room depended in part upon the time necessary for learning the names of the children and, in part, upon interruptions in the gathering of the data.

3. *Reliability of observers.* Reliability of the two observers[4] was determined from simultaneous independent observations in the first room to be studied. The data for reliability represented 3 hours, 37 minutes, and 33 seconds of observation time. During this time forty-three observation blanks were used by each of the observers.

Reliability was expressed in terms of percentages of agreement. By "agreement" is meant simply that the number of tallies recorded by one observer for a specified category during the specified observation time is the same as the number recorded by the other observer. Since no stenographic record of the teacher's activities was kept, it is impossible to determine the extent to which even identical frequencies of the recorded contacts represent the contacts. The percentages were obtained by dividing

[4] The observers were the writer and Miss Evaline Burgess.

twice the number of tallies in which the observers were in agreement by the sum of the total number of tallies for both observers. The value for "twice the agreement" is equal to the difference between the sum of the tallies recorded by both observers and the number of tallies in which the observers disagree. For a given set of data, this value, and hence the percentage of agreement, tends to vary with the unit of time and with the unit of children employed. An increase in the size of the units of time and children tends to be accompanied by an increase in the number of tallies in agreement, since variable errors in recording are smoothed out by summing the data from successive observation records and for larger numbers of children.

Percentages of agreement for both group and individual contacts were computed in time units of forty-three observation periods, twelve periods, and the single period. The two units of children represented for individual contacts were the separate children and all children combined. For group contacts only one unit of children was possible since under "Group" were recorded all contacts involving two or more children, without further discrimination.

The data subsequently reported for the twenty-five teachers were treated in a manner analogous to that by which the agreement in recording over the entire observation time of forty-three periods was determined. That is, hourly rates were computed by dividing the sum of contacts for each category by the number of hours of observation.

The percentage of agreement in recording total group contacts was 97 for the forty-three periods and for each hour; for computations for the single observation period, the agreement was 94 per cent. For the forty-three periods, percentages of agreement for the separate categories ranged from 89 for *A*, to 99 for *F*. For the single observation period percentages ranged from 76 for *A*, to 94 for *B*.

Total individual contacts for the unit of "all children" were recorded with an agreement of 97 per cent for the forty-three periods and for each hour. For the single period the percentage was 92. Ten of the eighteen percentages for "all children" were above 90, and fifteen were 80 or above.

When the single child was taken as a unit, the percentage of agreement for forty-three periods and for each hour was 93. By the most rigorous criterion, the single child and the single observation period, the percentage was 86. With the time unit of forty-three periods the percentage of agreement for *F* was 91; for *A*, 86; for *B*, 85; for *C*, 73; and for *E*, 70.

Both the values and the stability of the percentages of agreement were positively related to the relative frequencies within the categories. For individual contacts ninety per cent of the combined tallies of the two

observers were recorded in categories *F*, *A*, and *B*. By contrast, low frequencies were recorded in categories *C* and *E*.

4. *Sample.* (a) Length of observation time. On the basis of correlational analyses reported in preceding studies,[5] five hours was taken as the standard length of observation time for each child. Since there were two reading periods in each day, during which only approximately half the children were present, the average number of hours of observation of the teachers was greater than that for the children. The mean number of hours of observation for the twenty-five teachers was 7.21.

(b) *Subjects.* All the data for this study were obtained in twenty-five second grade rooms of the public schools of Oakland, California. Oakland is situated on San Francisco Bay and extends to a residential section in the Oakland Hills. The Research Department of the Oakland Public Schools had given the fifty-three elementary schools of the city self-explanatory "cultural designations" of "Waterfront," "Central," and "Hill." The sample in this study included 7 Waterfront rooms, 11 Central rooms, and 7 Hill rooms. These numbers were proportional to the numbers of such schools in the entire city.

The supervisor of elementary instruction made a tentative selection of rooms and proceeded to invite cooperation of principals and teachers in permitting an observer to work in each room for two and a half to three days. The explanation given was that the observer would be making a psychological study of second grades and wished to be nonparticipating in the schoolroom procedures. Her aim would be to collect data under classroom conditions which were as nearly "normal" as possible, and hence she would prefer to have no deviations in the school program result from her presence in the room. The teachers were informed that the data would be entirely confidential and that any use to which they might be put could not affect the teachers or the children. The only services asked of the teachers were the providing of a list of pupil's names before the arrival of the observer and a seating chart to help the observer in learning the names.

No teacher is known to have refused to cooperate in the study; only one was reported as having indicated some reluctance; and in one case a principal decided not to ask a particular teacher, since he believed her to be living under considerable strain in regard to her family situation.

Rooms containing a large proportion of Chinese or Mexican children or having student teachers were excluded, and one room was eliminated when it was discovered that one of the reading classes was taken by a special teacher.

The ages of the teachers ranged from twenty-four years to sixty-six,

[5] *Op. cit.*, Chapter 9.

with a median age of forty-five years. Only two had had no previous experience and the median number of years of experience was eighteen. Eleven of the teachers had reported four or more years of college training. In general, the teachers can be divided into two groups on the basis of age, experience, and training. Ten of the eleven teachers with four or more full college years of higher education were thirty years of age or younger. The eleventh was next to the eldest of all the teachers. In the other group would be placed the twelve teachers who were forty-five years of age or older and whose original training consisted of two years of normal school. Only one member of this older group had taken sufficient extra work to obtain a college degree. No teacher held a graduate degree.

There were 859 children who attended in the twenty-five rooms during the observations. The median number in each room was 35. Boys and girls were evenly divided as to total numbers, with 431 and 428, respectively. The mean number of boys in each room was 17.24, and the mean number of girls was 17.12.

III. Findings

1. *Derivation of hourly rates of contacts.* All tallies from the observation records were tabulated and reduced to the following hourly rates by dividing the sum of contacts in each category by the number of hours of observation.

(a) Hourly rates of individual contacts for each room.
(b) Hourly rates of group contacts for each room.
(c) Hourly rates of individual contacts for each child separately.
(d) Mean hourly rates per child for each room.

2. *Teacher output, or load.* The gross rates of contacts which these teachers had with their children constitute a measure of the energy output of the teachers. These numbers tell at what rate, irrespective of categories, the teachers were saying something or making some gesture which was interpreted by the observers as a contact with one or more of the children in the room. The range of hourly rates of total group and individual contacts was from 425.56 to 953.58, with a mean of 627.18. The teacher with the lowest rate of total group and individual contacts had one of the large classes, and the teacher with the highest rate had one of the smallest classes.

The range of hourly rates of total group contacts was from 66.72 to 431.66, with a mean of 219.75. The range of hourly rates of total contacts with individual children was from 271.72 to 535.92, with a mean of 407.43.

Table 1
Group Contacts: Hourly Rates for Each Teacher

Teacher	N	Integration			Domination				Undetermined	Grand Total
		F	*E*	Total	*C*	*B*	*A*	Total		
W-1[a]	38	57.32	21.88	79.20	12.94	130.05	49.31	192.30	...	271.49
W-2[a]	29	23.51	21.72	45.23	3.56	77.21	25.18	105.97	...	151.19
W-3[a]	39	10.92	11.04	21.96	4.91	116.20	29.94	151.05	...	173.01
W-4	39	7.43	6.98	14.41	2.53	46.36	3.27	52.16	.15	66.72
W-5	40	52.88	12.77	65.65	4.40	100.96	17.58	122.94	...	188.60
W-6[b]	40	30.06	15.77	45.83	6.40	143.30	11.16	160.86	...	206.70
W-7[b]	39	27.19	11.54	38.73	5.44	91.51	29.84	126.79	...	165.52
Total	264	.....	.....	.....	....	.....	.....	.....	...	.....
Mean	37.71	29.90	14.53	44.43	5.74	100.80	23.75	130.29	...	174.75
S.D.	3.62	17.70	5.19	.....	3.16	30.49	13.87	.....	...	57.18
C-8[c]	33	68.73	15.26	83.99	8.16	136.10	12.24	156.50	...	240.48
C-9[c]	34	57.00	22.08	79.08	8.66	138.53	32.18	179.37	...	258.44
C-10	39	58.94	17.88	76.82	10.01	125.32	16.02	151.35	.14	228.33
C-11[d]	26	40.30	9.02	49.32	3.83	73.91	20.22	97.96	...	147.27
C-12[d]	32	38.51	11.57	50.08	10.96	127.73	22.68	161.37	...	211.42
C-13	26	23.07	11.75	34.82	16.61	344.41	35.82	396.84	...	431.66
C-14	35	7.97	21.70	29.67	1.51	92.31	33.90	117.72	...	147.39
C-15	38	44.57	4.74	49.31	10.11	206.37	14.36	230.84	...	280.15
C-16	37	44.93	8.06	52.99	15.67	173.73	23.58	212.98	...	265.97
C-17	27	23.10	8.22	31.32	9.31	197.10	7.62	214.03	...	245.34
C-18	33	24.86	12.01	36.87	4.52	101.27	36.72	142.51	.56	179.94
Total	360	.....	.....	.....	....	.....	.....	.....	...	.....
Mean	32.73	39.27	12.94	52.21	9.03	156.07	22.30	187.41	...	239.67
S.D.	4.43	17.43	5.42	.....	4.39	71.52	9.13	.....	...	74.54
H-19	31	48.75	10.78	59.53	9.06	139.22	21.56	169.84	.16	229.53
H-20[e]	37	39.66	28.81	68.47	9.17	209.17	43.15	261.49	...	329.97
H-21[e]	35	36.56	11.38	47.94	7.40	149.64	20.20	177.24	...	225.18
H-22[f]	31	61.05	19.48	80.53	5.96	117.73	28.92	152.61	...	233.43
H-23[f]	38	21.36	10.61	31.97	6.79	123.62	23.48	153.89	.57	186.42
H-24	32	13.77	9.14	22.91	6.09	93.91	18.94	118.94	...	141.85
H-25	31	54.35	26.51	80.86	4.69	130.92	71.22	206.83	...	287.68
Total	235	.....	.....	.....	....	.....	.....	.....	...	.....
Mean	33.57	39.36	16.67	56.03	7.02	137.74	32.51	177.27	...	233.44
S.D.	2.82	15.90	7.64	.....	1.53	33.41	17.55	.....	...	57.25
Total	859	.....	.....	.....	....	.....	.....	.....	...	.....
Median	35.00	38.51	11.75	.....	6.79	127.73	23.48	.....	.00	225.18
Mean	34.36	36.67	14.43	51.10	7.55	135.46	25.57	168.58	.06	219.75
S.D.	4.36	17.61	6.26	.....	3.73	57.87	13.99	.....	.02	71.22

[a] Rooms designated by like superscripts were in the same school.

3. *Means of hourly rates of group and individual contacts by category, for all teachers combined.* There were distinct patterns in the relative mean rates of the categories for group and for individual contacts of all teachers combined, and the pattern for group contacts was very different from that for individual contacts. The sequence for group contacts was *B* (135.46), *F* (36.67), *A* (25.57), *E* (14.43), and *C* (7.55). For individual contacts the sequence was *F* (168.71), *A* (96.16), *B* (83.38), *C* (42.41), and *E* (8.69). For both group and individual contacts there was a wide separation between the highest and second highest rates, and the lowest rates offered extreme contrasts with the high end of the scale.

4. *Correlations of rates of separate categories of contacts with age of teacher and number of children.* A consistent zero relation as indicated by Spearman ranks correlations existed between the average numbers of children present in the rooms and each category of group contacts and total group contacts. A coefficient of −.36 for individual *F* indicated a tendency for the teachers with large numbers of children to have lower rates of *F* contacts with individual children. By contrast, a positive coefficient of .32 indicated that those teachers with large numbers of children tended to have higher rates of *B* contacts with individual children. All other coefficients were low and unreliable.

For total group contacts and for group *C* contacts there was a small positive tendency for the rate to increase with the age of the teacher as shown by respective coefficients of .33 and .37. The coefficients for individual *B* contacts and for total individual contacts, shown by coefficients of .32 and .37, respectively, indicated a small positive tendency for the older teachers to have more contacts.

5. *Group contacts: Hourly rates for each teacher.* Group contacts were all recorded without consideration of the number of children or of the particular children concerned. If two or more children were involved in a relationship simultaneously and none of them was addressed separately, then the contact was recorded under "Group." But characteristically the group contact was a contact with all the children in the room.

Hourly rates of group contacts for each teacher are shown in Table 1. The mean hourly rate of total group integrative contacts for all the teachers was 51.10, and the range was from 14.41 to 83.99. The mean rate of *F* contacts for the twenty-five teachers was two and one-half times that of *E* contacts. With the exception of two teachers, the rate of *F* contacts for each teacher was higher than the corresponding rate of *E*.

The mean number of group dominative contacts was 168.58, and the range was from 52.16 to 396.84. Each of the teachers had higher rates of group dominative contacts than of group integrative contacts. With only one exception, each teacher had a rate of *B* contacts which was greater

than the sum of all her other rates for group contacts. The mean rate of *B* was 135.46, while the mean rate of *A* was 25.57. Group *C* contacts had a mean of only 7.55.

Relative patterns of rates were the same for the Waterfront, Central, and Hill rooms as for all teachers combined. One teacher in the Waterfront group had exceptionally low rates in *F*, *A*, and *B*. There were individual differences among the twenty-five teachers in relative rates in the categories, but the pattern of the means was highly representative.

6. *Individual contacts: Hourly rates for each teacher.* In Table 2 are presented the hourly rates for the different categories of individual contacts for each teacher. As in Table 1, no account is taken in this table of the distribution of the contacts among the several children.

Almost all the individual integrative contacts were of the nature of *F* (integration with evidence of working together). The mean of 168.71 for *F* was contrasted with a mean of 8.69 for *E* (integration with no evidence of working together). This unequal relationship obtained for every teacher, although the difference was more pronounced in some cases than in others. The range of rates of *F* contacts was from 87.50 to 233.05, both extremes occurring in the Central group. The means for the Waterfront and Central teachers were almost identical with each other. However, the Hill teachers were outstanding for the very low standard deviations of their rates.

F had the highest rates of any of the categories of individual contacts. This is to be contrasted with the very high rates of *B* for group contacts.

The mean rate of individual dominative contacts for the twenty-five teachers was greater than the mean rate for integrative contacts. The mean rates for the Waterfront and Central teachers were practically the same. The Hill teachers had the highest rate of total dominative contacts, and the greatest excess of total domination over total integration, despite the fact that among their number was the teacher with the lowest rate of domination of the twenty-five teachers.

A (domination in conflict) contributed most heavily to total domination scores for individual contacts. This was true for each of the cultural groups. The range of individual *A* rates was from 40.11 to 184.11, with a mean of 96.16. The range of rates of *B* was from 25.94 to 141.73, and the mean was 83.38.

Individual *C* contacts were fourth among the five categories in mean rate of occurrence. The mean rate of *C* contacts was 42.41, and the range was from 25.85 to 71.17. Means for the cultural groups showed little variation.

7. *Individual contacts: Mean hourly rates per child for each teacher.* Since contacts were recorded for each child separately and a record was

Table 2
Individual Contacts: Hourly Rates for Each Teacher

Teacher	N	Integration			Domination				Undetermined	Grand Total
		F	*E*	Total	*C*	*B*	*A*	Total		
W-1[a]	38	175.96	5.24	181.20	32.20	68.72	111.09	212.01	5.86	399.08
W-2[a]	29	194.51	11.10	205.61	46.06	54.42	95.70	196.18	6.56	408.35
W-3[a]	39	222.58	4.42	227.00	71.17	80.00	115.34	266.51	4.54	498.04
W-4	39	138.48	10.70	149.18	31.80	73.70	79.79	185.29	24.37	358.84
W-5	40	118.68	11.81	130.49	42.03	100.14	40.11	182.28	14.56	327.34
W-6[b]	40	198.21	25.45	223.66	50.00	108.93	51.04	209.97	8.18	441.82
W-7[b]	39	98.28	9.95	108.23	55.44	84.35	107.43	247.22	7.43	362.86
Total	264	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean	37.71	163.81	11.24	175.05	46.96	81.47	85.79	214.22	10.21	399.48
S.D.	3.62	42.59	6.40	.....	12.76	17.19	27.80	.....	6.50	53.16
C-8[c]	33	207.55	7.40	214.95	26.44	79.91	71.60	177.95	7.85	400.76
C-9[c]	34	168.69	1.44	170.13	34.63	62.19	89.75	186.57	5.77	362.48
C-10	39	233.05	10.59	243.64	41.20	83.12	47.78	172.10	10.59	426.32
C-11[d]	26	232.51	4.64	237.15	55.33	69.95	109.15	234.43	3.14	474.73
C-12[d]	32	220.70	14.31	235.01	49.62	128.16	112.48	290.26	10.65	535.92
C-13	26	166.19	7.59	173.78	40.11	123.93	181.95	345.99	2.15	521.92
C-14	35	87.50	5.83	93.33	35.42	77.50	75.69	188.61	13.75	295.69
C-15	38	156.18	3.12	159.30	60.30	84.89	59.05	204.24	2.12	365.67
C-16	37	204.18	4.63	208.81	37.61	91.19	84.93	213.73	1.94	424.48
C-17	27	115.11	5.68	120.79	43.65	69.77	52.12	165.54	11.97	298.31
C-18	33	139.41	11.58	150.99	25.85	35.59	136.16	197.60	12.85	361.44
Total	360	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean	32.73	175.55	6.98	182.53	40.92	82.38	92.79	216.09	7.53	406.16
S.D.	4.43	46.37	3.67	.....	10.38	24.95	38.28	.....	4.45	76.93
H-19	31	152.03	7.03	159.06	29.53	25.94	41.09	96.56	16.09	271.72
H-20[e]	37	139.15	6.72	145.87	50.65	141.73	151.16	343.54	8.01	497.42
H-21[e]	35	174.11	6.54	180.65	66.15	126.46	156.47	349.08	2.56	532.29
H-22[f]	31	183.28	15.70	198.98	31.25	56.98	75.29	163.52	9.45	371.95
H-23[f]	38	166.48	7.36	173.84	30.83	71.71	57.43	159.97	5.09	338.90
H-24	32	171.13	3.97	175.10	44.37	107.68	184.11	336.16	4.64	515.89
H-25	31	153.82	14.46	168.28	28.65	77.64	117.27	223.56	1.74	393.57
Total	235	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean	33.57	162.86	8.83	171.69	40.20	86.88	111.83	238.91	6.80	417.39
S.D.	2.82	10.95	4.10	.....	13.18	37.67	50.84	.....	4.57	92.06
Total	859	.....	.....	.....	.....	.....	.....	.....	.....	.....
Median	35.00	168.69	7.36	173.84	41.20	79.91	89.75	204.24	7.43	399.08
Mean	34.36	168.71	8.69	177.40	42.41	83.38	96.16	221.95	8.07	407.43
S.D.	4.36	39.32	5.02	.....	12.23	27.54	41.09	.....	5.31	76.25

[a] Rooms designated by like superscripts were in the same school.

also made of the time each child was present during the observations, an individual rate or score for each child was obtained by dividing the sum of his contacts in each category by the number of hours he was present. For each room these rates were combined into a mean rate for the room or teacher. These means and the standard deviations for each room are presented in Table 3. The data were the same as those from which the values in Table 2 were derived, but in Table 3 consideration has been given to the length of time during which each child received these contacts.

The range of mean rates per child for total individual contacts was from 10.21 to 29.11, with the mean at 16.91. For each cultural group, and for the teachers as a whole, the average rates of dominative contacts per child exceeded the average rates of integrative contacts.

The relative positions of the mean rates for the different categories were the same as those described in the preceding section for the hourly rates of individual contacts for each teacher, in order of decreasing frequency: *F*, *A*, *B*, *C*, and *E*. The difference between *A* and *B* was very small.

8. *Hourly rates of individual contacts for the 859 children.* No child was entirely without contacts with his teacher. Six of the children had rates of total contacts below two per hour and six children had rates of contacts which were far outside the range of the majority. The difference in frequencies for the separate categories was evidenced in the rates for individual children, just as they had been in the coarser groupings of the data described above.

9. *F-A and I-D ratios.* Ratios between the teachers' separate rates of *F* (integration with evidence of working together) and their rates of *A* (domination with evidence of conflict), *F-A*, as well as between their rates of total integration and total domination, I-D, were reported. For group contacts all I-D ratios were less than one, but only ten of the group *F-A* ratios were less than one. The mean group *F-A* ratio was 1.81. I-D ratios for hourly rates of individual contacts ranged from .52 to 1.65, eight of the ratios being greater than one. The mean individual I-D ratio was .86. In other words, these teachers' contacts both with groups and with individual children were more frequently of a dominative than of an integrative nature. When only the extremes of domination and integration, *A* and *F*, were considered, it was found that the teachers tended to behave integratively with their children rather than to dominate them in conflict, to work *with* them rather than to work *against* them. Twenty-one of the *F-A* ratios for individual contacts were greater than one. The range was .91 to 4.88, and the mean ratio was 2.10.

F-A and I-D ratios for individual contacts obtained from the hourly rates for each teacher and the mean hourly rates per child for each teacher

TABLE 3
INDIVIDUAL CONTACTS: MEAN HOURLY RATES PER CHILD

Teacher	N	Integration				Domination						Total Integration	Total Domination	Total Contacts (including unidentified)
		F		*E*		*C*		*B*		*A*				
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.			
W-1[a]	38	5.86	4.61	.18	.24	1.07	.46	2.38	.90	3.73	2.47	6.04	7.18	13.38
W-2[a]	29	12.67	9.85	.71	.60	2.80	1.23	3.46	1.56	6.19	4.34	13.38	12.45	26.30
W-3[a]	39	12.52	13.68	.17	.22	3.04	1.85	4.50	4.33	4.65	4.04	12.69	12.19	25.07
W-4	39	4.93	2.54	.39	.32	1.29	1.05	2.56	1.20	2.74	2.42	5.32	6.59	12.28
W-5	40	3.74	3.08	.34	.38	1.30	1.02	3.17	2.42	1.20	1.14	4.08	5.67	10.21
W-6[b]	40	7.12	3.30	.92	.61	1.77	1.01	4.03	1.90	1.93	2.06	8.04	7.73	16.04
W-7[b]	39	4.08	6.16	.50	1.42	1.98	1.30	3.38	3.99	4.22	6.50	4.58	9.58	14.35
Total	264	....	....	....	....	....	....	....	....	....	....	....	....	....
Mean	37.71	7.27	....	.46	....	1.89	....	3.35	....	3.52	....	7.73	8.77	16.80
S.D.	3.62	3.52	....	.26	....	.71	....	.70	....	1.58	....	....	....	.....
C-8[c]	33	9.27	7.08	.34	.41	1.17	.86	3.74	1.70	3.06	2.60	9.61	7.97	17.92
C-9[c]	34	6.98	4.25	.06	.10	1.44	1.05	2.52	1.10	3.64	2.87	7.04	7.60	14.67
C-10	39	9.90	5.61	.52	.49	1.78	1.08	3.54	1.94	2.13	2.14	10.42	7.45	18.03
C-11[d]	26	11.12	7.74	.23	.23	2.61	1.73	3.34	1.44	5.13	1.49	11.35	11.08	22.59
C-12[d]	32	8.13	3.46	.62	.67	1.72	.95	4.77	1.83	4.02	5.13	8.75	10.51	19.66
C-13	26	8.61	5.40	.45	.51	2.38	1.86	7.51	5.58	9.65	7.86	9.06	19.54	29.11
C-14	35	3.28	2.38	.23	.28	1.31	.82	3.00	1.72	2.82	4.01	3.51	7.13	11.16
C-15	38	5.11	3.18	.11	.15	1.97	1.04	2.81	1.22	1.91	2.16	5.22	6.69	11.99
C-16	37	7.50	3.80	.17	.24	1.36	.27	3.50	1.91	3.28	2.80	7.67	8.14	15.89
C-17	27	5.47	3.61	.27	.01	2.06	.98	3.38	2.00	2.33	2.78	5.74	7.77	14.04
C-18	33	5.61	5.07	.52	.51	1.01	.67	1.46	1.04	5.52	7.69	6.13	7.99	14.59
Total	360	....	....	....	....	....	....	....	....	....	....	....	....	....
Mean	32.73	7.36	....	.32	....	1.71	....	3.60	....	3.95	....	7.68	9.26	17.24
S.D.	4.43	2.23	....	.18	....	.49	....	1.46	....	2.11	....	....	....	.....

(Continued on next page)

TABLE 3 (Continued)
INDIVIDUAL CONTACTS: MEAN HOURLY RATES PER CHILD

Teacher	N	Integration				Domination						Total Integration	Total Domination	Total Contacts (including unidentified)
		F		*E*		*C*		*B*		*A*				
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.			
H-19	31	6.88	4.19	.31	.27	1.23	.81	1.15	.69	1.88	2.05	7.09	4.26	12.10
H-20[a]	37	5.21	3.45	.24	.28	1.78	.84	5.16	2.11	5.25	4.87	5.45	12.19	17.90
H-21[a]	35	6.83	3.82	.26	.31	2.35	1.20	4.91	3.22	5.49	4.57	7.09	12.75	19.92
H-22[f]	31	7.08	3.54	.62	.40	1.23	.62	2.26	1.06	2.88	1.95	7.70	6.37	14.38
H-23[f]	38	6.43	4.88	.33	.32	1.19	.73	2.81	1.82	2.08	1.97	6.76	6.08	12.97
H-24	32	7.49	4.53	.17	.25	1.97	1.16	4.67	2.44	8.03	7.25	7.66	14.67	22.52
H-25	31	6.24	4.95	.56	.56	1.16	.69	3.16	1.99	4.55	4.03	6.80	8.87	15.73
Total	235	....	....	....	....	....	....	....	....	....	....	....	....	....
Mean	33.57	6.59	....	.36	...	1.56	....	3.45	....	4.31	....	6.94	9.31	16.40
S.D.	2.82	.68	....	.12	...	.44	....	1.40	....	2.04	....	....	.....	.....
Total	859	....	....	....	....	....	....	....	....	....	....	....	....	....
Median	35.00	6.88	....	.33	...	1.72	....	3.38	....	3.64	....	7.09	7.97	15.73
Mean	34.36	7.12	....	.37	...	1.71	....	3.48	....	3.93	....	7.49	9.14	16.91
S.D.	4.36	2.43	....	.20	...	.56	....	1.28	....	1.98	....	....	.....	.....

[a] Rooms designated by like superscripts were in the same school.

were found to be almost identical. This indicates that an evaluation of a teacher's behavior could be arrived at by recording contacts only as group or individual, without references to specific children. Such a procedure would greatly decrease the time required for study of a particular room, since it would relieve the observer of the necessity of learning the children's names, and it would also simplify the tabulations and computations of the data. However, a more detailed study of a teacher or class would justify the use of the method followed in the present study.

10. *Hourly rates for morning and afternoon sessions.* Separate hourly rates of group and individual contacts were computed for morning and afternoon observation periods. All significant differences represented higher rates for morning periods. Critical ratios for mean differences for total group contacts, for *E*, for *C*, and for *B* were 3.20, 2.52, 2.71, and 3.13, respectively. For individual contacts significant differences were found for *B*, and for *C*, with critical ratios of 2.94 and 2.84, respectively.

11. *Mean hourly rates for boys and girls.* It was found that there was a consistent tendency for the teachers to have higher mean rates of individual contacts in each category with boys than with girls. Correlations between mean rates for boys and girls ranged from .49 for *F* to .82 for total contacts. By the use of the formulas for the standard errors of means and the differences between means in samples matched on an infallible criterion, ratios of differences in means to their standard errors for all teachers combined ranged from 3.93 for *F* to 21.79 for total contacts. The most marked difference was found for *A* (domination in conflict). The ratio of this difference to its standard error was 9.29.

12. *Intercorrelations of rates of teacher contacts.* Since the data showed linear relations, Pearson product moment correlations between the rates for each category and the rates for every other category were computed for the following groupings of the data:

(a) Each teacher's hourly rates of group contacts. These ten coefficients included only two negative values. Significant correlations were found between *B* (domination with no evidence of conflict) and *C* (domination in working together), .77, and between *E* (integration with no evidence of working together) and *A* (domination in conflict), .64.

(b) Each teacher's hourly rates of individual contacts. A coefficient of .49 was found for *C* and *B*, and one of .45 for *B* and *A*. The other coefficients were not significant.

(c) Each teacher's mean rates per child. When the rates for individual children were averaged in this way some of the resulting coefficients were higher than corresponding ones for other methods of grouping the data for individual contacts. This was particularly noticeable for the combinations of *FE*, *FC*, *CA*, and *BA*.

(d) Correlations of the rates for the entire number of 859 children. These ten coefficients all showed positive relationships between children's rates of contacts in the different categories. One of the highest coefficients was .40 for *FB*, indicating a tendency for the teachers' contacts to evolve from *B* (domination with no evidence of conflict) to *F* (integration with evidence of working together). A correlation of .43 for *CB* reflected the familiar schoolroom behavior sequence of direction by the teacher, conformity by the child, and praise for that conformity.

(e) Separate correlations of the rates per child in each room. The 250 coefficients varied widely. Of the 150 not involving *E*, all were positive except ten. Of the 100 having *E* as a variable, 40 were negative in sign. Means and medians of the coefficients were virtually indentical with the corresponding coefficients computed for the 859 children.

VITA

Dorothy Eloise Clifton was born in Burkesville, Kentucky, on October 23, 1914. She attended the University High School at Lexington, Kentucky, and received a B.A. degree from the University of Kentucky in 1934. For graduate work at Ohio State University the following year she received a Master of Arts degree in clinical psychology. During the academic year 1935-36 she was a graduate student-assistant in mental growth at the Merrill-Palmer School, Detroit. From 1936 to 1939 she was psychologist and social worker at the Children's Aid Society, Detroit. She then returned to do graduate work at Ohio State University for two quarters. In the fall of 1940 she was appointed assistant psychometrist of the Personnel Bureau, University of Illinois. During the next year, she held a full-time appointment as assistant psychometrist and research assistant in the Personnel Bureau. In 1942 she was appointed research assistant in the Department of Psychology at the University of Illinois for special research to be carried on in California. In the fall of 1943 she was appointed Columbia Foundation research clinical psychologist with the Children's Agency, San Francisco.

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